

In the Claims:

Please amend the claims as follows:

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8. (Amended) A voice coil actuator comprising
- a core having an axis;
 - a permanent magnet having a longitudinal axis, and positioned so that the longitudinal axis of the permanent magnet is substantially parallel to the axis of the core;
 - a moving coil positioned to interact with the permanent magnet along the axis of the core; and
 - a compensating coil positioned to interact with the moving coil, wherein a magneto-motive force in the compensating coil is controlled as a function of a position of the moving coil;
 - wherein the compensating coil is positioned about the core;
 - wherein the compensating coil extends along substantially the entire length of the core; and
 - wherein the permanent magnet is positioned with respect to the core to define a cavity between the core and an end of the permanent magnet; and
 - further wherein a second compensating coil is positioned in the cavity.
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10. (Amended) A voice coil actuator comprising
- a core having an axis;
 - a permanent magnet having a longitudinal axis, and positioned so that the longitudinal axis of the permanent magnet is substantially parallel to the axis of the core;
 - a moving coil positioned to interact with the permanent magnet along the axis of the core; and
 - a compensating coil positioned to interact with the moving coil, wherein a magneto-motive force in the compensating coil is controlled as a function of a position of the moving coil;

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cancel

wherein the permanent magnet is positioned with respect to the core to define a cavity between the core and an end of the permanent magnet; and further wherein the compensating coil is positioned in the cavity;

wherein a second cavity is defined at another end of the permanent magnet between the permanent magnet and the core, and further wherein a further compensating coil is positioned in the second cavity;

further including a core compensating coil positioned about the core.

Please add the following new claims:

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27. An actuator comprising

a core;

a permanent magnet having a longitudinal axis, and positioned so that the longitudinal axis of the permanent magnet is substantially parallel to an axis of the core;

a moving coil positioned to interact with the permanent magnet along the axis of the core; and

a compensating coil positioned to interact with the moving coil and having a magneto-motive force which is controlled as a function of a position of the moving coil;

wherein the compensating coil is positioned about the core;

wherein the compensating coil extends along substantially the entire length of the core; and

wherein the permanent magnet is positioned with respect to the core to define a cavity between the core and an end of the permanent magnet; and further wherein a second compensating coil is positioned in the cavity.

28. The actuator of claim 27, wherein a second cavity is defined at another end of the permanent magnet between the permanent magnet and the core, and further wherein a further compensating coil is positioned in the second cavity.

29. An actuator comprising

a core;

a permanent magnet having a longitudinal axis, and positioned so that the longitudinal axis of the permanent magnet is substantially parallel to an axis of the core;

a moving coil positioned to interact with the permanent magnet along the axis of the core; and

a compensating coil positioned to interact with the moving coil and having a magneto-motive force which is controlled as a function of a position of the moving coil;

wherein the permanent magnet is positioned with respect to the core to define a cavity between the core and an end of the permanent magnet; and further wherein the compensating coil is positioned in the cavity;

wherein a second cavity is defined at another end of the permanent magnet between the permanent magnet and the core, and further wherein a further compensating coil is positioned in the second cavity;

further including a core compensating coil positioned about the core.

30. The actuator of claim 29, wherein the actuator is closed-ended.

31. The actuator of claim 29, wherein the actuator is open-ended.

In the Drawings:

Approval of proposed new Figures 8, 9 and 10, attached hereto, is respectfully requested.